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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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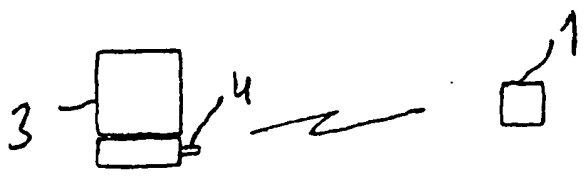
(54) Title: A METHOD AND APPARATUS FOR ACCESS CHECKING AND ACCESS CONTROL



(57) Abstract: A method for access checking and access controlling mobile telephones (2), computers (3) or corresponding devices in respect of transactions and handling information respectively, wherein the user is provided with a user specific identification tag (1). The invention is characterised by causing the identification tag (1) to communicate via radio waves with said mobile telephone (2) or computer (3) in an area close to the telephone or the computer ; in that the radio wave transmitter/receiver unit of the identification tag (1) has a short range ; in that the identification tag (1) is caused to exchange with the telephone or the computer respectively information relating to identification of the identification tag (1), and in that such identification is considered to ratify identification of the user. The invention also relates to an apparatus.

A METHOD AND APPARATUS FOR ACCESS CHECKING AND ACCESS CONTROL

The present invention relates to a method and to an apparatus for access checking and access control.

Computers and mobile telephones are now used as instruments for performing transactions and affixing different kinds of signatures. Computers are also used to an ever-increasing extent to take out information that is covered by differing degrees of secrecy. In this regard, it often suffices to log-in with a password or a PIN code so as to enable transactions to be performed or information to be handled over a certain time period. This means that a terminal can remain open for unauthorised use if left unattended, or may be stolen within a given period of time from when the user logged-in.

In order to prevent this, there is a need for codes or for the use of magnetic cards or so-called smart cards, as a means of identification. One drawback with systems of this nature is that the user often perceives the system as troublesome and consequently often attempts to utilise shortcuts, therewith lowering the security level.

This problem is solved by means of the present invention.

Thus, the present invention relates to a method of checking and controlling access of mobile telephones, computers or corresponding devices for transactions and handling of information respectively, where the user is provided with a user-specific identification tag. The method is characterised by causing the identification tag to communicate with the mobile telephone or with computers in an area in the vicinity of the telephone or the computer via radio waves; by giving the transmitter/receiver unit of the identification tag a short range with respect to radio waves; by causing the identification tag to exchange with the telephone and the computer respectively information that includes identification of the identification tag; wherein such identification is considered to ratify the identification of the user.

The invention also relates to an apparatus of the kind that includes the main characteristic features set forth in the accompanying Claim 7.

The invention will now be described in more detail partly with reference to an exemplifying embodiment of the invention illustrated in the accompanying drawing, in which

- Figure 1 illustrates an identification tag and a computer; and
- Figure 2 illustrates an identification tag and a telephone.

Figures 1 and 2 show an identification tag 1 which is intended to be carried by a user, for instance around his/her neck. The identification tag is of a kind known per se and will conveniently have the form of a transponder which reflects an incoming radio signal back to the transmitter/receiver unit from which the incoming signal was transmitted. The tag may include information relating to the identity of the owner, for instance his/her employment number, although it may also contain other information, such as the level of authority of the employee in respect of the computer system. The tag may also include codes for enabling transactions to be carried out, such as payments, while using a computer or a telephone.

The present invention thus also relates to a method for checking and controlling access to mobile telephones 2, computers 3 or like devices for carrying out transactions and handling information respectively.

According to the invention, the identification tag 1 is caused to communicate with said mobile telephone 2 or said computer 3 via radio waves, in a space in the vicinity of the telephone or computer. The radio wave transmitter/receiver unit 1 of the identification tag has a short range. The identification tag 1 is also caused to exchange with the telephone or the computer respectively information that includes identification of the identification tag. Such identification is considered to ratify the identity of the user.

The transmitter/receiver unit of the computer shown in Figure 1 include an antenna 4. The mobile telephone also includes an antenna 5.

In conjunction with the identification process, data, such as codes concerning authorised access or transactions, is sent to the telephone or the computer. Such data can either be transmitted from the tag to the computer or the telephone, or alternatively there may be

sent a code which causes the computer or the telephone to fetch data from a memory device.

According to one preferred embodiment of the invention, the telephone 2 or the computer 3 is caused to ascertain at least at regular short time intervals whether or not the identification tag is located within a given communications area determined by said range. This is effected by virtue of the telephone or the computer sending an inquiry signal to the tag 1, which responds to the signal.

According to another preferred embodiment, one or more of the functions of the telephone or the computer may be used solely when an identification tag has been identified by the telephone or the computer. The presence of a tag is therefore a necessary prerequisite for enabling at least certain functions to be carried out. With regard to a computer, this may prevent access to certain programs unless a tag that provides access to such programs is detected. With regard to a telephone, this may prevent certain services, such as pay services, being carried out unless a tag which allows said services is detected by the telephone.

It is also preferred that one or more of the functions of the telephone or the computer will cease to act when the identification tag leaves said communications area.

It is preferred that the aforesaid range is restricted to an area of about 10 metres. A still shorter range, namely a range of about 2 metres, is required in certain other use applications. One such use application is when many personal computers are in close proximity of one another and where a tag shall only be activated by one of these computers.

According to another preferred embodiment of the invention, radio communication takes place in accordance with the so called Blue Tooth technology. In this case, a Blue Tooth module is built in the computer and in the identification tag respectively. It is also possible to use some other radio technique, such as WLAN (Wireless Local Network). However, irrespective of the radio technology used, it is essential that the range can be made sufficiently short for the tag to be activated solely by the devices intended.

Although the invention has been described above with reference to a number of exemplifying embodiments, it will be understood that the identification tag also can be used for other purposes than those mentioned, such as for passage control.

The present invention shall not therefore be considered limited to the aforedescribed exemplifying embodiments, since modifications can be made within the scope of the accompanying Claims.

CLAIMS

1. A method for access checking and access controlling mobile telephones (2), computers (3) or corresponding devices in respect of transactions and handling information respectively, wherein the user is provided with a user specific identification tag (1), **characterised** by causing the identification tag (1) to communicate via radio waves with said mobile telephone (2) or computer (3) in an area close to the telephone or the computer; in that the radio wave transmitter/receiver unit of the identification tag (1) has a short range; in that the identification tag (1) is caused to exchange with the telephone or the computer respectively information relating to identification of the identification tag (1), and in that such identification is considered to ratify identification of the user.

2. A method according to Claim 1, **characterised** in that the telephone (2) or the computer (3) is caused to ascertain at least at uniform short time intervals whether or not the identification tag (1) is situated within a given communications area determined by said range.

3. A method according to Claim 1 or 2, **characterised** in that one or more of the functions of the telephone (2) or the computer (3) can only be performed subsequent to a given identification tag (1) having been identified by the telephone or the computer.

4. A method according to Claim 2, 3 or 4, **characterised** in that one or more of the functions of the telephone (2) or the computer (3) cease to act when the identification tag (1) leaves said communications area.

5. A method according to Claim 1, 2, 3 or 4, **characterised** in that said radio communication operates in accordance with the so called Blue Tooth technology.

6. A method according to Claim 1, 2, 3, 4 or 5, **characterised** in that said range is restricted to less than about 10 metres.

7. Apparatus for access checking and access controlling mobile telephones (2), computers (3) or corresponding devices in respect of transactions and handling of information respectively, comprising a user-specific identification tag (1), **characterised**

in that the identification tag (1) is designed to communicate with said mobile telephone (2) or said computer (3) via radio waves in an area close to the telephone or the computer; in that the radio wave transmitter/receiver unit of the identification tag (1) has a short range; in that the identification tag is designed to exchange with the telephone or the computer respectively information comprising identification of the identification tag (1); and in that the user is considered to have been identified by such identification.

8. Apparatus according to Claim 7, **characterised** in that the telephone (2) or the computer (3) is designed to ascertain at least at regular short time intervals whether or not the identification tag (1) is situated within a given communications area determined by said range.

9. Apparatus according to Claim 7 or 8, **characterised** in that one or more of the functions of the telephone (2) or the computer (3) can only be carried out subsequent to a given identification tag (1) having been identified by the telephone or the computer.

10. Apparatus according to Claim 7, 8 or 9, **characterised** in that the telephone (2) or the computer (3) is designed to cease to carry out one or more of the functions of said telephone or said computer when the identification tag (1) leaves said communications area.

11. Apparatus according to Claim 7, 8, 9 or 10, **characterised** in that said radio communications is arranged to operate in accordance with the so called Blue Tooth technology.

12. Apparatus according to Claim 7, 8, 9, 10 or 11, **characterised** in that said range is restricted to less than about 10 metres.

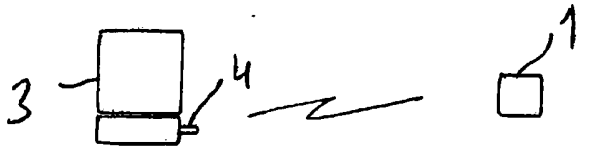


Fig 1

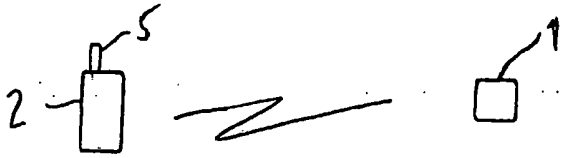


Fig 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 02/00747

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04B 1/54, H04L 9/32, G01S 13/74, B42D 15/10, G06K 7/12
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04B, H04L, G01S, G06K, B42D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5892901 A (LANDWEHR ET AL), 6 April 1999 (06.04.99), column 3, line 17 - line 25, figure 3, abstract --	1-12
X	WO 0123694 A1 (TACTEL AB), 5 April 2001 (05.04.01), figures 1-4, claim 4, abstract --	1-12
X	US 6075973 A (GREEFF ET AL), 13 June 2000 (13.06.00), figures 1-3 --	1-12
A	US 5455851 A (CHACO ET AL), 3 October 1995 (03.10.95), abstract --	1-12

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
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"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
9 July 2002	11 -07- 2002
Name and mailing address of the ISA Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Lars Ekeberg/SN Telephone No. +46 8 782 25 00

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International application No.
PCT/SE 02/00747

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2673743 A1 (RAGAGNIN MORENO), 11 Sept 1992 (11.09.92), abstract --	1-12
P,X	WO 0140906 A2 (ENSURE TECHNOLOGIES, INC), 7 June 2001 (07.06.01), figures 1-4, abstract -- --------	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

10/06/02

International application No.
PCT/SE 02/00747

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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